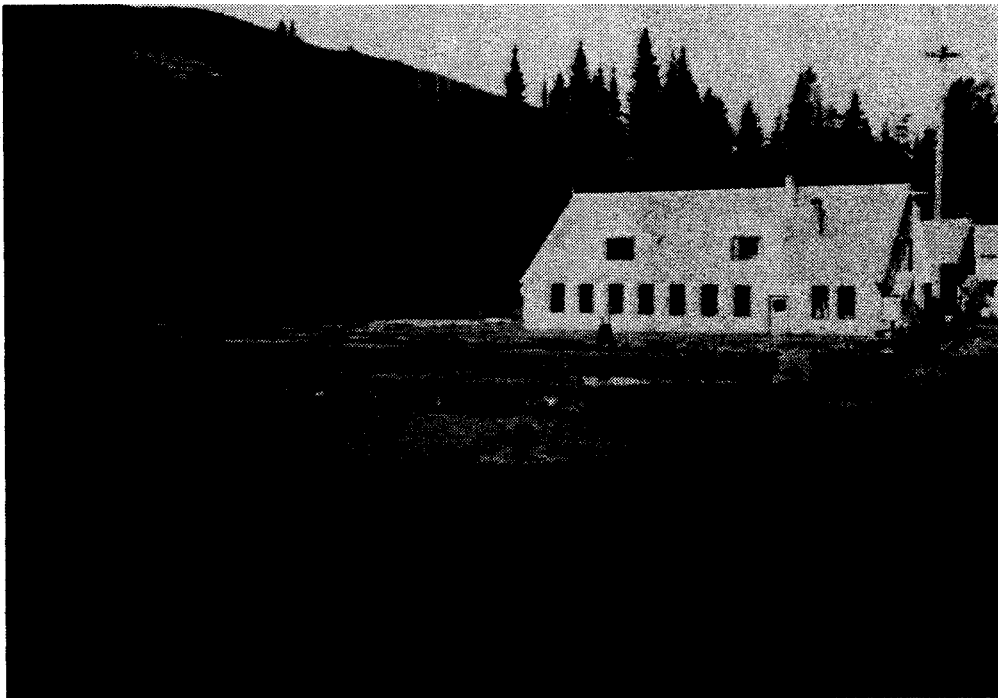




MULLAN HATCHERY ANNUAL REPORT

October 1, 1984 to September 30, 1985



by

Ivan Talbott
Fish Hatchery Superintendent 1

April 1988

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	1
INTRODUCTION	2
OBJECTIVES	2
FISH PRODUCTION	3
Kokanee	3
Kootenai River Rainbow	3
Fall Chinook	3
FISH RELEASED AND REDISTRIBUTION	3
FISH HEALTH	4
SPAWNTAKING OPERATION	4
FISH FEED UTILIZED	4
IMPROVEMENTS	7
MISCELLANEOUS ACTIVITIES	7
ACKNOWLEDGMENTS	7

LIST OF TABLES

Table 1. Fish released October 1, 1984 to September 30, 1985. .	5
---	---

ABSTRACT

Mullan Hatchery produced 3,460,331 kokanee fry, 86,727 Kootenai River rainbow, and released 74,154 fall chinook. The hatchery also acted as a redistribution station for 69,143 catchable rainbow from Hayspur Hatchery and American Falls Hatchery, and 7,775 cutthroat fry for high mountain lake planting from Clark Fork Hatchery.

The hatchery crew provided support for the spawning activities at both the kokanee spawning in Granite Creek and the fall chinook spawning in Wolf Lodge Creek.

Author:

Ivan Talbott
Fish Hatchery Superintendent I

INTRODUCTION

Mullan Hatchery is located four miles east of Mullan, Idaho and consists of:

3 raceways 4 ft. x 65 ft. x 2 ft., 2 raceways 6 ft. x 65 ft. x 1 ft. 8 in., 1 raceway 12 ft. x 65 ft. x 1 ft. 8 in., 2 raceways 6 ft. x 65 ft. x 3 ft., 1 pond 30 ft. x 186 ft. x 3 ft., 1 pond 25 ft. x 132 ft. x 3 ft., 1 pond 35 ft. x 78 ft. x 3 ft., and 19 vats 13 ft. 6 in. x 2 ft. 4 in. x 1 ft. 8 in.

The hatchery receives water from the South Fork and the Little North Fork of the Coeur d'Alene River. Domestic water and water for the incubators come from a small unnamed creek located south of the hatchery.

The hatchery requires 3 to 4 cfs from all three sources to operate. During the months of August, September, and October, the water supply is low and becomes critical at times. The water temperature varies from 33°F in January to 58°F in August.

The Mullan Hatchery buildings and grounds are owned by the Shoshone County Sportsmen Association. Shoshone County provides a budget of \$7,167 for the maintenance of the buildings and grounds. The Idaho Department of Fish and Game staffs the permanent personnel and provides the trucks and fish production costs for the station.

OBJECTIVES

1. To provide support for the kokanee spawning activities at Sullivan Springs on Pend Oreille Lake and fall chinook spawning in Wolf Lodge Creek, a tributary of Coeur d'Alene Lake.
2. To rear kokanee for release in Pend Oreille Lake and Priest Lake.
3. To rear and release fall chinook in Coeur d'Alene Lake and other assigned lakes and reservoirs.
4. To rear Kootenai River rainbow to be released in the Kootenai River system.
5. To receive catchable rainbow from Hayspur Hatchery and American Falls Hatchery for redistribution in the southern part of the Panhandle region.
6. To stock high mountain lakes.

FISH PRODUCTION

Kokanee

Late spawning kokanee are the major species of fish produced at Mullan. The kokanee run in Granite Creek, a tributary of Pend Oreille Lake, was trapped and spawned in November and December. Mullan received 4,895,208 eggs from the entire run. The first lot of eggs was taken on November 14, 1984 and was in incubators for 6 months and 20 days. The total number of kokanee released was 3,460,331. Of these, 3,350,400 were out of the 1984 brood year, which makes 68% survival to release as 2-month-old fry.

Kootenai River Rainbow

At the beginning of the fish year, there were 203,990 size-1 Kootenai River rainbow trout on hand received as eyed eggs from the University of Idaho's Hayden Creek Hatchery. There were 86,727 size-1 fish released in July. This is 20.81 survival of the eyed eggs received. Kootenai River rainbow do not do very well in a hatchery environment. These fish were checked for virus and bacteria. The results of these tests were negative.

Fall Chinook

At the first of the fish year, there were 74,154 size-2 fall chinook on hand. They were released in October 1984. In June 1985, Mackay Hatchery transferred 20,000 fall chinook to Mullan as size-2 fish. The eggs for these fish originated in Indiana. They are desirable because they have a 4-year life cycle and provide an extra year of growth prior to maturity. At the end of the fish year, they averaged 6.1 inches long.

FISH RELEASED AND REDISTRIBUTION

Mullan Hatchery released a total of 3,698,130 fish that weighed 22,024.85 pounds. This included 69,143 catchable rainbow, 74,154 fall chinook, 3,460,331 kokanee, 86,727 Kootenai River rainbow, and 7,775 cutthroat.

The rainbow trout were transferred to Mullan from Hayspur Hatchery and American Falls Hatchery for redistribution in lakes and reservoirs

in Region 1. The cutthroat came from Clark Fork Hatchery for redistribution in high mountain lakes with the help of a Forest Service helicopter.

Fish released during the fish year are summarized in Table 1.

FISH HEALTH

The Kootenai River rainbow suffered large mortality from unknown causes. Twice, samples of these fish were sent to Rangen's Disease Lab at Hagerman, Idaho, to be checked for virus. They came back negative both times. Fisheries pathologist, Harold Ramsey, examined them and found that their gills were plugged with mucous, but had no bacteria. During the period of time that the mortality was high, the fish were treated with Terramycin, salt, and benzalkonium chloride with no positive results. There may be some environmental factors that are causing problems for these fish. The fish that were released in 1984 suffered a 75% loss, the lot of fish released in 1985 also suffered a high loss, and only 20.81 of them survived.

The fall chinook transferred to Mullan from Mackay had a number of fish that began to lose body condition from the shock of transporting them. Most were recovered by feeding in the pond with the size feed needed by larger fish and then feeding around the edges and lower end with 3/32 OMP that the smaller fish could eat. At release time, there were two visibly different sized groups of fish in the pond, but they were all in good body condition.

SPAWNTAKING OPERATION

The Mullan Hatchery crew provided support for the spawning activities for both the kokanee and fall chinook. Twenty man-days were spent at the kokanee trap at Granite Creek on Pend Oreille Lake, and 4,895,208 late-spawning kokanee eggs were brought to the hatchery to be incubated. The fall chinook run of Wolf Lodge Creek on Coeur d'Alene Lake was trapped, and 72,471 eggs were taken to Mullan to be hatched. The chinook spawning run age structure was predominately 4-year-old fish. The 3-year-old fish that should have made up a large portion of the run did not show up for some unknown reason.

FISH FEED UTILIZED

The kokanee were fed OMP starter mash and Rangen's semi-moist starter and 1/32 pellets. The Kootenai River rainbow were fed OMP starter and 1/32 pellets. The fall chinook were fed Rangen's dry diet that included fine crumbles, coarse crumbles, 4/32 pellets for the larger size fish and 1/32 OMP pellets for the smaller fish.

Table 1. Fish released October 1, 1984 to September 30, 1985.

Name of water	Catalog number	Pound	Numbe	Origin	Size
<u>Rainbow</u>					
Coeur d'Alene River	03-22	3,265	15,47	American Falls and Hayspur	3
S.F. Coeur d'Alene River	03-22-06	950	4,086		3
N.F. Coeur d'Alene River	03-22-08	2,865	8,158		3
St. Joe River	03-23	2,030	9,527		3
St. Maries River	03-23-10	1,160	7,049		3
Big Creek	03-23-20	325	1,521		3
Marble Creek	03-23-21	205	1,005		3
N.F. St. Joe River	03-23-32	710	3,479		3
Elsie Lake	03-0119	725	3,005		3
Day Pond	03-0120	300	1,200		3
Lower Glidden	03-0123	616	3,013		3
Dismal Lake	03-0138	100	490		3
Day Rock Pond	03-22-06-0013	518	2,198		3
Gold Creek Pond	03-22-0016	377	1,594		3
Eagle Pond	03-22-20	555	2,538		3
Spirit Lake	03-0200	700	2,000		3
Lower Twin	03-00-0103	700	2,800		3
Total		15,35 1	69,14 3		
<u>Fall Chinook</u>					
Lucky Peak Reservoir	10--0115	113	2,035	Mackay	2
Crane Falls Reservoir	05--0175	56	1,008	Mackay	2
American Falls Reservoir	05--0230	3,200	57,60	Mackay	2
C.J. Strike Reservoir	05--0167	168	3,016	Mackay	2
Coeur d'Alene Lake	03--0105	820	1,049	Mackay	2
Total		4,357	74,15		

Table 1. Continued.

Name of Water	Catalog number	Pounds	Number	Origin	Size
Kokanee					
Spirit Lake	02--0200	171.50	109,931	Mullan	1
Jewel Lake	02--0155	0.97	1,498	Mullan	1
Mirror Lake	02--0144	0.65	1,004	Mullan	1
Lower Twin Lake	03--0103	0.65	1,004	Mullan	1
Clark Fork River	02-30	515.00	1,325,095		1
Granite Creek (Priest Lake)	01-21	587.00	998,487	Mullan	1
Granite Creek (Pend Oreille)	02-10	284.00	432,532	Mullan	1
Hoodoo Creek	02-04	<u>436.00</u>	<u>590,780</u>	Mullan	1
Total		1,997.77	3,460,331		
Kootenai River Rainbow					
Deer Creek	01-16-02	314	86,727	Hayden Cr.	1
<u>Cutthroat</u>					
Halo Lake	03--0147	2.55	3,010	Clark Fork	1
Bacon Lake	03--0144	1.91	2,255	Clark Fork	1
Crystal Lake	03--0160	<u>2.62</u>	<u>2,510</u>	Clark Fork	1
Total		7.08	7,775		

A total of 2,515 pounds of fish were produced with 4,490 pounds of feed at a cost of \$1,529.92. This gives a conversion factor of 1.78 and a cost for feed of \$0.608 for each pound of fish produced.

IMPROVEMENTS

A new 10 inch pipeline from the Little North Fork to the valve box was installed in front of the hatchery during 1985. The Shoshone County road crew provided some of the manpower and equipment to do the work. The project was funded by the Bonneville Power Administration as mitigation for damage that might be done to the water quality in the South Fork of the Coeur d'Alene River when the new power line is built through the area.

As a project for the SYEPT workers, the fire sheds were repaired and painted during the summer.

MISCELLANEOUS ACTIVITIES

The hatchery grounds are owned by the Shoshone County Sportsmen Association, so their meetings were attended by hatchery personnel to keep them up-to-date on all the activities at the hatchery.

ACKNOWLEDGMENTS

Hatchery staffing included: Ivan Talbott, Hatchery Superintendent I; Mary Alexander, Temporary Laborer; Tina Alexander, SYEPT employee; and Joe Welling, SYEPT employee.

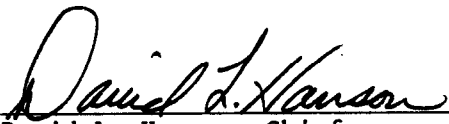
Submitted by:

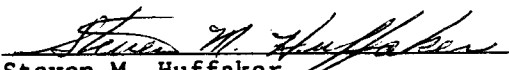
Ivan Talbott
Fish Hatchery Superintendent I

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME


Jerry M. Corley, Director


David L. Hanson, Chief
Bureau of Fisheries


Steven M. Huffaker
Fish Hatcheries Manager